

Application No.: 10/669,577
Docket No.: UC0223USNA

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Remarks

Status of the Application

Claims 1-53 are pending in the application, and claims 23-43 have been withdrawn as directed to non-elected subject matter. Claims 1-22 and 44-53 have been examined. Claim 1-18, 44-46 and 51-53 stand rejected as anticipated under 35 U.S.C. § 102(e) and claims 1-22 and 44-53 are provisionally rejected under 35 U.S.C. § 101 as claiming the same invention as claims 1-10 and 20-21 of copending Application No. 10/803,113.

None of the claims are being amended.

Each rejection will be addressed separately below.

Claims 1-18, 44-46 and 51-53 Not Anticipated by McCormick, U.S. Patent No. 6,611,096

Applicants respectfully traverse the rejection of these claims as allegedly anticipated by McCormick. Claims 1, 11, 19, 44, 46, 50 and 51 are independent claims. Applicants' remarks on the patentability of all the rejected claims over the cited reference will, unless otherwise indicated, address the independent claims, since the dependent claims incorporate the limitations of the independent claim from which each depends and further patentably distinguishes over the cited art.

McCormick relates to a self-doped, water-soluble buffer layer comprising an inherently conducting polymer and a self-doping moiety covalently bonded to the polymer. Col. 2, line 66 to Col. 3, line 6 and Col. 3, lines 49-53. "Self-doped" means that the doping moiety is covalently bonded to the polymer being doped (Col. 4, lines 15-16) and Formula III (50% self-doped), Formula IV (100% self-doped), and Formula V (self-dopant moiety covalently substituted at sites other than the aromatic rings). The self-doped buffers of McCormick are water-soluble: see Col. 7, lines 57-60; Col. 8, lines 29, and 63-64; Col. 9, lines 20-27; and Col. 10, line 50 (Example 1).

The claims of the application recite an aqueous dispersion of a polyaniline (conductive polymer) and at least one colloid-forming polymeric acid (claim 1) and all of the other independent claims contain these limitations. The composition is therefore not a solution, as in McCormick, but a dispersion, which is a continuous liquid medium containing a suspension of minute particles (please see the application at page 3, lines 30-32, and related text at page 3, line

Application No.: 10/669,577
Docket No.: UC0223USNA

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29 to page 4, line 2). In addition, the colloid-forming polymeric acids are a discrete component of the aqueous dispersions claimed. The conductive polymer is not self-doped as in McCormick, but is "externally doped" as that term is employed in McCormick (Col. 4, lines 9-15).

McCormick does not teach or suggest each and every limitation of the claims under review, in the order in which they are presented in those claims, and therefore cannot anticipate the rejected claims. Applicants respectfully assert that this rejection should be withdrawn.

Clarification Requested

The Office Action appears to reject claim 23 although that claim has been withdrawn from consideration (please see paragraph 3, page 2 of the Action). Applicants assume this to be merely a typographical error. Clarification is respectfully requested.

Claims 1-9 Not Anticipated by Gardner, U.S. Patent No. 5,716,550

Claims 1-9 have been rejected under 35 U.S.C. § 102(e) as being anticipated by Gardner. Applicants respectfully traverse this rejection.

Claim 1 is the only independent claim and Claims 2-9 depend thereon. Thus, claim 1 is discussed below.

The subject matter of Claim 1 is directed to a composition comprising an aqueous dispersion of at least one polyaniline and at least one colloid-forming polymeric acid. In contrast to the subject matter of pending Claim 1, Gardner is directed to polyaniline-protonic counter-ion complexes which are soluble in water and/or solvents. Gardner states at column 8, lines 22-27:

The electrically conductive coating compositions of this invention include a solubilized polyaniline protonic counter-ion complex. By "solubilized" is meant that the complex is present in a continuous phase (that is, dissolved) rather than as a dispersed particulate phase as is common in many prior art compositions.

Gardner does not teach or suggest an aqueous dispersion of polyaniline and a colloid-forming polymeric acid.

The Examiner has cited several sections of Gardner to support the rejection. Applicants respectfully submit that none of these sections teaches or suggests Applicants' invention as recited in Claim 1, for the reasons given below:

Application No.: 10/669,577
Docket No.: UC0223USNA

(1) col. 11, lines 25-30:

This section discloses a polyaniline made with hydrogen chloride. Hydrogen chloride is neither polymeric nor colloid-forming and there is no suggestion of an aqueous dispersion of the polyaniline made.

(2) col. 12, lines 38-44:

This section discloses that solubilized polyaniline-protonic counter-ion complexes of Gardner can be made using polymeric acids having a plurality of sulfo groups. Sulfonated polystyrene and sulfonated polyethylene are specifically disclosed. However, there is no suggestion of colloid-forming polymeric acids or of substituted polymeric acids. In fact, Gardner excludes colloid-forming acids since the resulting polyaniline-protonic counter-ion complexes must be soluble, and not in the form of dispersions.

(3) col. 13, lines 39-52:

This section includes a list of specific acids which can be used to supply the protonic counter ion for the solubilized polyaniline-protonic counter-ion complexes. The only polymeric acid in the list is p-polystyrenesulfonic acid. This acid is water soluble and is not colloid-forming.

(4) col. 12, lines 1-20:

Applicants respectfully submit that this section discloses protonic acids, and not polyaniline as set forth in the present claims. In Formulas II, III and IV therein disclosed, A is either a sulfonic acid or sulfo group, and various substituent groups are identified. Formulas II and III do not disclose polyaniline or an aniline monomer, and Formula IV is alicyclic, not aromatic.

(5) col. 10, line 22 and related text:

Applicants submit that this section describes representative R groups for Formulas I(a) – I(d) and not a fluorinated polymeric sulfonic acid (the Formulas are presented in Col. 9, lines 23-50). This section therefore recites substituents which may be situated on any of the R groups in structures I(a) – I(d) of Gardner, which are polyaniline structures. Thus the “halo” recited in this section, is a substituent on a substituent of polyaniline, and is not related at all to the protonic acid of Gardner. There is no teaching or suggestion here of a fluorinated polymeric sulfonic acid, as recited in Applicants’ claim 6.

(6) Examples 26-29, Col. 21, lines 32-37:

Application No.: 10/669,577
Docket No.: UC0223USNA

This section discloses the addition of particles of cobalt doped iron oxide to solutions of a polyaniline/camphorsulfonic acid complex. As discussed above, the compositions of Gardner are solutions, not aqueous dispersions. Applicants' claims 1-9 do not recite these metal particle additives.

Statutory Double Patenting Not Established

Claims 1-22 and 44-53 stand rejected over claims 1-10 and 20-21 of copending Application Serial No. 10/803,113. Applicants traverse the rejection as improper. The MPEP states:

"Same invention" means identical subject matter. [citations omitted] A reliable test for double patenting under 35 U.S.C. 101 is whether a claim in the application could be literally infringed without literally infringing a corresponding claim in the patent. [citation omitted] Is there an embodiment of the invention that falls within the scope of one claim, but not the other? If there is such an embodiment, then identical subject matter is not defined by both claims and statutory double patenting would not exist.

MPEP 804.II.A.; emphasis added. Claim 1 of the present application is broader than Claim 1 of the '113 application, which recites "fluorinated polymeric acid." Thus, an embodiment, namely "non-fluorinated polymeric acid," exists that could literally infringe Claim 1 of the present application without literally infringing a corresponding claim in the '113 application. In addition, claim 1 of the present application recites a composition comprising an aqueous dispersion of "a polyaniline" and at least one colloid-forming polymeric acid as opposed to "at least one polyaniline" recited in claim 1 of the '113 application. Thus, embodiments having more than one polyaniline could literally infringe claims of the '113 application without infringing a corresponding claim in the present application. Claims 2-9 of this application are dependent (directly or indirectly) on claim 1 and therefore incorporate both limitations of claim 1 discussed above. Accordingly, the rejection is improper and should be withdrawn.

Conclusion

In light of the foregoing remarks, Applicants respectfully submit that the rejections of claims 1-22 and 44-53 have been overcome and should be withdrawn, leaving those claims in condition for allowance. A notice of allowance for claims 1-22 and 44-53 is therefore earnestly solicited.

Application No.: 10/669,577
Docket No.: UC0223USNA

Should the Examiner have questions about the contents of this paper or the status of the claims, the Examiner is invited to call the undersigned at the telephone number listed below.

Respectfully submitted,



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